

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - NESHA SOURCE  
RENEWAL

PERMITTEE

C.M. Products, Inc.  
Attn: Michael F. Jenkins  
800 Ela Road  
Lake Zurich, Illinois 60047

Application No.: 73021835

I.D. No.: 097085AAL

Applicant's Designation: AL PROCESS

Date Received: July 26, 2002

Subject: Solvent Cleaning and Coating Facility

Date Issued:

Expiration Date:

Location: 800 Ela Road, Lake Zurich

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of vapor degreaser, glazing operation (consisting of a manual spray booth and an automated glazing machine) controlled by a thermal oxidizer, spray waxing operation, and tin and aluminum plating operations as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 25 tons/yr for volatile organic material (VOM), and hazardous air pollutants (HAPs) to less than 10 tons/yr of any single HAP or 25 tons/yr of any combination of HAPs). As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) for this location.
2. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.
- 3a. The solvent cleaning machine is subject to 40 CFR part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning. The Illinois EPA is administering this regulation in Illinois on behalf of the United States EPA under a delegation agreement. The United States EPA issued this final rule on December 2, 1994.
- b. The Permittee must be in compliance with 40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning on or before December 2, 1997.

- 4a. Emissions and operation of glazing operation and vapor degreaser shall not exceed the following limits:

<u>Material</u>	<u>Usage</u>		<u>Pollutant</u>	<u>Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>		<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Degreaser Solvent (Trichloroethylene)	2,169.0	9.76	VOM HAP	2,169 2,169	9.76 9.76
Glaze Release Agent*	8,400	50	VOM	0.01	0.15
Glaze Solvent*	3,800	22.1	VOM	0.01	0.08

\* Controlled by thermal oxidizer with 99.62% overall efficiency.

These limits are based on complete volatilization of the VOM and HAP contents of the material, 79% VOM content of the Glaze release agent, 100% VOM content of Degreaser and Glaze Solvents, control efficiency demonstrated during testing, and information provided in the application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. The Permittee shall use only trichloroethylene as solvent.
5. This permit is issued based on negligible emissions of particulate matter (PM) from waxing and plating operations. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
- 6a. For determination of compliance with the limits of this permit, degreaser solvent usage shall be determined by the following equation:

$$U = V - (W \times P)$$

Where:

U = Degreaser Solvent usage for compliance determinations (gallons).

V = Virgin solvent<sup>A</sup> added to the degreasers (gallons), as determined by daily addition log sheets.

W = Waste solvent<sup>B</sup> removed from the degreasers and sent off-site for reclamation or disposal, as determined by monthly manifests.

P = Percent concentration of solvent in waste, as determined by analysis/testing<sup>C</sup>.

<sup>A</sup> For purposes of this permit, virgin solvent is defined as unused solvent.

<sup>B</sup> For purposes of this permit, waste solvent is defined as used solvent.

<sup>C</sup> The percent concentration of solvent in waste (P) shall be determined in accordance with USEPA Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW-

846), Test Method 8260.

- b. Compliance with the monthly organic material emission limits shall be calculated using the solvent density as specified in the Material Safety Data Sheet, and the solvent usage (U) per month, as follows:

$$\begin{aligned} \text{Emissions} &= \text{Solvent Usage (U)} \times \text{Solvent Density} \\ (\text{Lbs/Month}) &= (\text{Gallon/Month}) \times (\text{Lbs/Gallon}) \end{aligned}$$

- 7a. The emissions and operation of the solvent cleaning machine shall not exceed the following limits; pursuant to 40 CFR 63.463(b) (1) (ii) or (b) (2) (ii).

<u>Type of Cleaning Machine</u>	<u>Solvent Air-Interface Area (Ft<sup>2</sup>)</u>	<u>Idling Emission Rate (Lb/Hr)</u>
Batch Vapor Machine	36.75	1.65

These limits are based on the type of solvent cleaning machine, and an idling emission rate of 0.045 lb/hr per square feet of solvent air interface area, and emission limits were determined considering that the machine is turned on, but not actively cleaning parts.

- b. The Permittee shall demonstrate that each solvent cleaning machine can achieve and maintain an idling emission limit of 0.045 pounds per hour per square foot of solvent air interface area as determined using the procedures in 40 CFR Part 63.465(a) and Appendix A. The test can be done by the owner or operator of the affected machine or can be supplied by the vendor of that solvent cleaning machine or a third party.
- c. i. An initial performance test to demonstrate compliance with the idling emission limit of Condition 2(a) and 2(b), (40 CFR 63.463(f) (1)).
- ii. Establish parameters that will be monitored to demonstrate compliance, (40 CFR 63.463(f) (1) (ii)).
- iii. Operate each solvent cleaning machine within parameters identified in the initial performance test, (40 CFR 63.463(f) (3)).
8. The Permittee shall comply with the following monitoring procedures, pursuant to 40 CFR Part 63.466(c).
- a. The Permittee shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).
- b. The monitoring shall be conducted monthly. If after the first year no exceedances of the hoist speed are measured the Permittee may begin monitoring the hoist speed quarterly.
- c. If an exceedance of the hoist speed occurs during quarterly monitoring the monitoring frequency returns to monthly until another year of compliance without an exceedance is demonstrated.

- d. If the Permittee can demonstrate to the Illinois EPA's satisfaction in the initial compliance report that the hoist cannot exceed a speed of 11 feet per minute, the required monitoring frequency is quarterly, including during the first year of compliance.
9. Each solvent cleaning machine shall meet the following base design requirements, pursuant to 40 CFR, Part 63.463(a).
- a. Each solvent cleaning machine shall be equipped with a manual or working-mode cover that completely covers the machine openings. The cover must be periodically inspected to ensure that it remains free of cracks, holes, and other defects. The cover must be closed at all times except during the cleaning, solvent removal, maintenance and monitoring of the degreasers.
  - b. A freeboard ratio of 0.75 or greater must be maintained for each solvent cleaning machine.
  - c. Each solvent cleaning machine shall have an automated parts handling system that handles parts from initial loading to removal of cleaned parts. If the Permittee wants to use manual hoist, the Permittee must demonstrate to the Illinois EPA that the hoist can never exceed 11 feet per minute.
  - d. Each solvent cleaning machine shall be equipped with a liquid and vapor level indicator and must be operational at all times.
  - e. Each solvent cleaning machine shall be equipped with a primary condenser to provide continuous condensation or rising solvent vapors and to create a controlled vapor zone.
  - f. Each solvent cleaning machine with lip exhaust control must be controlled by a carbon adsorption unit.
10. The Permittee shall comply with the following work practices, requirements and post in the work place a one page summary of work practices, pursuant to 40 CFR Part 63.463(d).
- a. Conduct maintenance as per manufacturer's recommendation to ensure that each degreaser works properly. Any alternative maintenance practice must be approved by the Illinois EPA.
  - b. Each solvent cleaning machine shall be covered to minimize air disturbances in the degreaser and the room at all times except during the cleaning, removal of solvent, maintenance and monitoring. If a cover cannot be used, air disturbances shall be controlled by Reduced Room Draft. Room draft shall not exceed 50 feet/minute.
  - c. i. Parts basket or parts size shall be less or equal to 50% of the solvent air interface area.

or

- ii. A speed of 3 feet/minute or less shall be maintained between entry and removal of parts basket or parts.
  - d. If cleaning operation involves spraying, spraying must be performed within the vapor zone (i.e., a baffled or enclosed area of the degreaser).
  - e. The Permittee must ensure that parts or parts basket are positioned so that solvent drains freely and parts basket or parts are not removed from the machine until parts are clean and solvent dripping has stopped.
  - f. During the startup, the Permittee must turn on the primary condenser prior to turning on the sump pump and during shutdown turn off the sump heater prior to turning off the primary condenser.
  - g. The Permittee must add and remove solvent with leak-proof couplings. The end of the pipe or hose introducing or withdrawing the solvent be located beneath the liquid solvent surface (i.e., submerged filling) in the sump.
  - h. The Permittee must collect and store the waste solvent, still bottoms, and sump bottoms in a closed container. Absorbent materials such as sponges, fabric, wood, and paper products shall not be cleaned.
  - i. Each operator of a solvent cleaning operation must be ready to take and pass an Operator Test at any time during the normal operation of the plant.
11. The Permittee shall comply with the following reporting requirements, pursuant to 40 CFR Part 63.468:
- a. An initial statement of compliance report demonstrating each machine is in compliance by December 2, 1997, must be submitted no later than May 1, 1998, pursuant to 40 CFR.468 (d). The initial compliance report shall include the following:
    - i. Name and address.
    - ii. Facility location address.
    - iii. A test report for tests of idling emissions meeting the specifications in Method 307 of Appendix A of 40 CFR Part 63. This report shall comply with the following requirements:
      - A. This test must be on the same specific model cleaner used at the source. The test can be done by the owner or operator of the affected machine or can be supplied by the vendor of that solvent cleaning machine or a third party.
      - B. This report must clearly state the monitoring parameters, monitoring frequency and the delineation of exceedances for each parameter.

- C. If a solvent cleaning machine vendor or third party test report is used to demonstrate compliance, it shall include the following for the solvent cleaning machine tested: Name of person(s) or company that performed the test, model name, the date the solvent cleaning machine was tested, serial number, and a diagram of the solvent cleaning machine tested.
- D. If a solvent cleaning machine vendor or third party test report is used, the owner or operator of the solvent cleaning machine shall comply with the following requirements:
  - 1. Submit a statement by the solvent cleaning machine vendor that the unit tested is the same as the unit report being submitted.
  - 2. Demonstrate to the Administrator's satisfaction that the solvent emissions from the solvent cleaning machine for which the test report is being submitted are equal to or less than the solvent emissions from the solvent cleaning machine in the vendor test report.
- b. An annual compliance report shall be submitted by February 1, of the year following the year report cover, pursuant to 40 CFR part 63.468(f). The compliance report shall include the following:
  - i. A statement, signed by the owner or operator or someone designate, stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required."
  - ii. Solvent consumption and HAP emissions for each machine in lb/month and ton/year.
- c. An exceedance report shall be submitted every 6 months if there is not an exceedance, and every 3 months if there is an exceedance, pursuant to 40 CFR Part 63.468(h). If an exceedance did not occur the report would consist of a statement certifying that there were no exceedances. The frequency of exceedance report will increase to quarterly after an exceedance occurs. The quarterly exceedance report shall include the following:
  - i. The type of exceedance (i.e., control/operating parameter, solvent emissions limit), the reason for the exceedance and the corrective actions taken.
- d. The Permittee shall submit exceedance report within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

- 12a. This permit is issued for the regenerative concentrator/oxidizer based on the oxidizer being operated such that an 99.62% reduction in overall VOM emissions is achieved as demonstrated in the compliance test performed July 27, 1997, and the oxidizer achieves a minimum destruction efficiency of 90%, pursuant to 35 Ill. Adm. Code 218.207.
  - b. The oxidizer combustion chamber shall be preheated to at least the manufacturer's recommended temperature but no less than the 1250°F, the temperature at which compliance was demonstrated in the compliance test performed July 27, 1997. This temperature, at a minimum, shall be maintained during operation. The Permittee may request a revision to this temperature based upon more recent stack testing results.
  - c. The oxidizer shall be operated at all times when the coating lines are in operation.
  - d. The VOM concentration in the effluent stream of the thermal oxidizer shall be measured by an approved independent testing service, within 45 days of a written request by the Illinois EPA for such a test. The Illinois EPA will require this test if, based on observations by Field personnel, the thermal oxidizer and the permanent total enclosure are poorly maintained or operated so as to make compliance with Section 218.207 and the conditions of this permit uncertain.
13. Pursuant to 35 Ill. Adm. Code 218.105(d) (2) and 218.207, the Permittee shall comply with the following monitoring requirements:
    - a. The Permittee shall install, calibrate, maintain, and operate temperature monitoring device(s) with an accuracy of 3°C or 5°F on the oxidizer in accordance with 35 Ill. Adm. Code 218.105(d) (2) and in accordance with the manufacturer's specifications. Monitoring shall be performed at all times when the thermal oxidizer is operating.
    - b. The Permittee shall install, calibrate, maintain, and operate, in accordance with the manufacturer's specifications, a continuous recorder on the temperature monitoring device(s), such as a strip chart, recorder or computer, with at least the same accuracy as the temperature monitor.
    - c. The Permittee shall, in accordance with the manufacturer's recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
  14. The Permittee shall maintain the following records:
    - a. The Permittee shall retain the following records on paper or computer disk for life time of the Solvent Degreaser, pursuant to 40 CFR Part 63.467(a) and (b):
      - i. An owners manual or a written maintenance and operating procedure for each machine and each piece of control equipment.

- ii. The installation date of each machine. If installation date isn't available, a letter certifying that machine was installed prior to or on or after November 29, 1993, to determine compliance option for existing or new source.
  - iii. Records of the idling emissions limit standard of the initial performance test, including the idling emission rate and values of the monitoring parameter measured during the test.
  - iv. Records of the halogenated HAP solvent content of each solvent used in each solvent cleaning machine.
  - v. Solvent usage (U) in gallons/month and gallons/year.
  - vi. Virgin solvent added to the degreasers (V) in gallons/month and gallons/year, as determined by daily addition log sheets.
  - vii. Waste solvent removed from the degreasers (W) in gallons/month and gallons/year, as determined by monthly manifests.
  - viii. Analysis sheet(s) showing test results and any calculations used to determine percent concentration of solvent in waste (P) for each month.
  - ix. Emissions of VOM and HAPS in lb/month and ton/year.
  - x. Keep record of manufacturer's recommendation of solvent air interface area. If manufacturer's data is not available keep record of solvent air interface determination.
  - xi. Keep record of manufacturer's data for idling emission rate. If manufacturer's data is not available, keep record of determination of idling emission rate (Test Method 307).
  - xii. Idling emissions rate in lb/hr.
  - xiii. All records and logs required by this permit for the solvent degreaser shall be retained at a readily accessible location at the source for at least 5 years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in a computer shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
- b. Name, Usage (lb/mo and Ton/yr), VOM and HAP Content as applied (% wt. or lb/gal), and VOM and HAP emissions for the following materials:
- i. Glaze release Agents; and



- ii. Glaze Solvents.
  - c. Oxidizer monitoring data;
  - d. A daily log of operating time for the oxidizer, monitoring equipment, and the associated coating line(s);
  - e. A maintenance log for the oxidizer and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages; and
  - f. Total VOM and HAP (single and Total) emissions for the facility.
15. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request, unless otherwise specified. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
16. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
17. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

18. The Permittee shall submit the following additional information with the Annual Emission Report, due May 1st of each year:
- a. Degreaser solvent name and usage (lb/mo and ton/yr);
  - b. Glazing release agent name and usage (lb/mo and ton/yr); and

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c. Glazing solvent name and usage (lb/mo and ton/yr).

If you have any questions on this, please call Eric Jones at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:EEJ:jar

cc: Illinois EPA, FOS Region 1  
Illinois EPA, Compliance Section  
USEPA

Attachment A

This attachment provides a summary of the maximum emissions from the solvent cleaning and coating facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario, which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, e.g., 25 tons/yr for volatile organic material (VOM), and hazardous air pollutants (HAPs) to less than 10 tons/yr of any single HAP or 25 tons/yr of any combination of HAPs, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program.

1. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.
- 2a. Emissions and operation of glazing operation and vapor degreaser shall not exceed the following limits:

<u>Material</u>	<u>Usage</u>		<u>Pollutant</u>	<u>Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>		<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Degreaser Solvent (Trichloroethylene)	2,169.0	9.76	VOM HAP	2,169 2,169	9.76 9.76
Glaze Release Agent*	8,400	50	VOM	0.01	0.15
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\* Controlled by thermal oxidizer with 99.62% overall efficiency.

These limits are based on complete volatilization of the VOM and HAP contents of the material, 79% VOM content of the Glaze release agent, 100% VOM content of Degreaser and Glaze Solvents, control efficiency demonstrated during testing, and information provided in the application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. The Permittee shall use only trichloroethylene as solvent.
3. This permit is issued based on negligible emissions of particulate matter (PM) from waxing and plating operations. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.

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